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UNITED STATES OF AMERICA.

ESSAYS

ON THE

CULTIVATION OF THE TEA PLANT,

IN THE

UNITED STATES OF AMERICA.

ADDRESSED TO THE

PEOPLE OF THE UNITED STATES GENERALLY,

AND TO THE

PLANTERS AND FARMERS

OF THE

SOUTHERN & WESTERN STATES PARTICULARLY.

BY JUNIUS SMITH, L. L. D.

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TO THE PLANTERS AND FARMERS OF THE SOUTHERN AND
WESTERN STATES.

GENTLEMEN :—

Sanguine in the belief that the cultivation of the Tea Plant in the United States will open a brilliant career to practical husbandry, I gave my leisure hours during the past Autumn to the preparation of several lectures on the subject, which it was my design to deliver to the population of your section of the country. Those lectures were completed in December, when I received an invitation from India to return to London, on matters of business, which would scarcely admit of refusal. This unexpected circumstance compelled me to abandon the idea of a personal visit to the south, at the present time, to superintend the plantation of the Tea nurseries, as well as my plan of delivering lectures for the instruction of the people in this new branch of agriculture. No other way seemed open for me to pursue, but to condense the lectures I had written into the form of Essays, and to convey the ideas I wished to communicate, through the medium of the press.

Although I deeply regret this interruption of my plans, yet the disappointment is, in some degree, mitigated by the confidence reposed in the ability of the person selected to discharge the duties of forming and planting the nurseries. Exempt from the bondage of intellectual servitude, to which the people of China, from the earliest ages of their national existence, have been subject, the

American husbandman comes fresh and unshackled by antiquated oriental notions, to the free choice and adoption of such improvements in the culture and preparation of Tea as his own unrestrained, unbiased, and cultivated intellect may prescribe. The addition of so great and productive a branch of industry to the rich staples which already pour their treasures from the pregnant earth, and choke our markets with abundance, opens a prospective vista to the southern cultivator, which cannot fail to arrest his attention, and cheer him on to the attainment of magnificent and gratifying results. How delightful to anticipate the period when copious supplies of a pure wholesome beverage, the product of our own soil, shall crown the labour of industry, and when the current of wealth, rolling its accumulating tide over our peaceful land, shall carry joy and thanksgiving to the cottage of the villager and the mansion of the citizen.

Your Obed't. Servant,

JUNIUS SMITH.

P. S. Letters addressed to me, to the care of Messrs. Cook & Smith, 110 Wall-street, New York, will be duly forwarded.

ON THE
CULTIVATION OF THE TEA PLANT
IN THE UNITED STATES.

ESSAY I.

Introduction—Description of the Tea Plant—Black and Green Tea from the same Plant—Resemblance to the Grape Vine—Torrid Zone supposed indispensable to the culture of the Tea Plant—Hon. Henry Clay's mistake—Climate, Latitude, Temperature, Soil, Location and Productions of the eighteen Chinese Tea Growing Provinces considered—Districts more particularly appropriated to the cultivation of Tea—Tea cultivated throughout China—Character of the soil adapted to the culture of Tea—Effects of Manure upon Plants—Tea Plant indigenous to the Temperate Zone—United States produces all the Plants which grow in the Temperate Zone, therefore will produce the Tea Plant.

INTRODUCTION—DESCRIPTION OF THE TEA PLANT.

The investigation of any subject which has a practical bearing upon the agricultural interests of our country, merits the attention, in a particular manner, of those engaged in the pursuits of husbandry. No subject relating to agriculture, with which I am acquainted, can be brought before the public mind, more novel in itself, or more intimately associated with our daily enjoyments and permanent welfare, than the cultivation of the Tea Plant. Great efforts have been made, and large sums of money expended, in exploring unknown, distant, trackless wilds, without the slightest attempt to explore the capabilities of lands lying at our door, and offering to the hand of industry, greater reward than distant possessions can promise. It is by no means certain that the extention of territory

will be more beneficial to our country than the extention of cultivation over lands already in possession. The former invites our surplus population, abroad ; the latter gives them full employment at home.

Hitherto, no friendly fostering hand has been raised in behalf of the Tea Plant, but content in the enjoyment of the purchased fruit, we have repelled the cultivation from our shores, until we have come to a conclusion that it cannot be cultivated at all.

Whilst we invite public attention to the enquiry, and the co-operation of Southern and Western Planters and Farmers in correcting our errors and more fully developing the subject, we beg to apprise the surface readers of our day, that it is not one calculated to amuse the imagination, but rather to instruct the understanding and enlarge the sphere of practical husbandry.

The Tea Plant is a hardy evergreen. It grows ordinarily from four to six feet in height and spreads in numerous branches from the bottom, forming a thick bushy top like a currant bush, but resembling, more closely perhaps, the myrtle. The shrub is covered in its season with a great number of white flowers with yellow stamens, like a wild rose, and is slightly odoriferous. When the flowers fall off a round pod remains, in which, when ripe, there is a round black seed about the size of a buckshot. The leaves are of bright green, seriated, and run to a sharp point like the leaf of a peach tree.* It is not our intention to discuss the often mooted question, whether there are two distinct species of Tea Plants, Green and Black, or whether there be but one species producing both Black and Green Tea. Learned naturalists, after exhausting their strength, have left the matter where they found it.

* See McCartney's Embassy by Sir Geo. Staunton. Foreign Missionary Magazine, New York, Aug., 1847. McCulloch's Commercial Dictionary.

Botanically considered the Tea Plant is undoubtedly but one species, and yet produces both green and black Tea, just as a grape vine produces white and black fruit, but is still a grape vine ; or an apple tree produces red and green fruit, but is still an apple tree. Soil, climate, cultivation, manure, mode of curing, time of collecting the bud and the leaf, produce a decided difference in the leaf of the same plant and in the quality of the Tea.

In many respects the Tea Plant resembles the grape vine more than any other plant. In France and Europe generally, it is well known that the grape vine of the same species produces very different qualities of wine, even from vineyards lying contiguous. The difference from the above-mentioned circumstances, is not easily accounted for with precision. It is precisely the same with the Tea Plant. The exact quality and characteristic flavour cannot be known until the leaf is gathered, converted into Tea, and the quality tested, and yet it is the same plant. Hence the almost numberless names given to Chinese Teas to designate their particular growth and quality. The best wines are produced in particular latitudes, particular soils, and particular locations. It is precisely the same with regard to Tea Plants grown from the same collection of seed, in contiguous gardens, set in different sections of the same district, producing various qualities of Tea. We find the best and choicest flavoured Tea produced in China, where we should least expect it, in the vicinity of Peking, N. Latitude 40°, in a line parallel with Philadelphia. The analogy, however, between the grape vine and the Tea Plant is not sustained in one important particular. A grape vine which produces white, does not produce black grapes ; nor does a vine which produces black produce white grapes. However various the quality of the wine the same grape may produce, it retains its distinctive colour. The Tea Plant produces different

qualities of Tea and so far resemble the grape vine, but it seems well substantiated that the same plant produces both black and green Tea, and so far differs from the grape vine. Great attention and sound discretion therefore must be exercised in the selection of the most advantageous location for a Tea Garden or Plantation, which will more fully appear in the sequel.

We are quite aware that a general opinion prevails in this country that an equatorial climate is indispensable to the successful cultivation of the Tea Plant. Nothing, we apprehend, can be more erroneous, more at variance with experience, nor more entirely fabulous than such an opinion.

Even the celebrated statesman of Kentucky, in his memorable address, delivered in Lexington, 13th Nov., 1817, affirms "that our country comprehends the greatest variety of rich soils capable of almost all the productions of the earth, excepting TEA, COFFEE AND THE SPICES." He evidently had not considered the subject, so far as regards the growth of TEA, with his usual sagacity; but gathering into one luminous view the amplitude and capacity of the Federal Union, for agricultural purposes, gave a bold off hand expression to his vigorous intellect and comprehensive mind without pausing to consider the details which might have given a different direction to his conclusion. Nevertheless, we have grouped his own romantic state among the Tea growing districts of our country, and anticipate the time when the celestial evergreen will wave over his plantations, and its fragrant leaf gladden his festivities and cheer his heart.

In considering the climate, latitude, temperature, and soil best adapted to the growth of the Tea Plant, our attention is naturally directed to the Tea growing districts of China. Our object will be sufficiently gained if we confine our enquiry to the eighteen provinces into which

China proper is divided, all, to a greater or less extent, Tea growing districts. This examination, especially when we come to consider the parallels of latitude in our own country, will probably show most satisfactorily and conclusively the error of popular opinion.

China proper, exclusive of its dependencies upon the Northwest and South, comprehends a space situated between 20° and 41° N. Lat., and from 101° to 122° East Longitude.

CHILI is the most northern of the eighteen provinces. The capitol, Peking, is in *Lat.* 40° , about 120 miles from Tungku, on the coast of Pachele Gulf, and is situated in the northern part of this province.

The climate of this province is colder than it is in the United States in the same parallel of Latitude. In Peking, the thermometer stands during the night in winter months 18 to 20° of Fahrenheit, and during the day is below freezing point. It is seldom so cold in this country south of 40° F. The summers are warmer than the same parallel in the United States. The temperature generally from 75 to 90 F., sometimes 95 to 105° . But notwithstanding the rigor of winter, the Tea Plant cultivated in the district contiguous to Peking, produces the finest, most fragrant, and most expensive tea in China. It is from this province that the Peking Tea Company collects the richest and greatest variety of Tea for exportation to Russia and other countries. It is from these gardens that the Emperor's household and the great officers of the court are supplied. Beyond the boundaries of China proper on the north, the Tea Plant is cultivated as high as 45° N. Lat., of an inferior quality it is true, as the high latitudes will not admit, from the length of winter and shortness of summer, of so early and so vigorous a growth, and of course of so delicate a leaf, as more temperate latitudes. It is manifest therefore that the growth

of the plant does not depend upon the temperature of the climate.

The soil of the eastern part of this province, extending to the sea coast, is sandy, poor, just sustaining a miserably destitute population. The middle and northern part is a level plain with richer and more productive soils. The western broken, and hilly, and adapted to agricultural purposes. Productions: Tea, Mullet, Wheat pulse, and varieties of Fruit, and some Rice. In Lat. parallel with Madrid, Philadelphia and Delaware.

2. Proceeding south, we come to the adjoining province of SHANTUNG, a maritime province stretching along the coast of the Yellow Sea.

The face of the country is diversified. The eastern part, hilly and mountainous; the western, level and undulating.

The temperature of this province, is cold in winter and hot in summer. Snow falls and sharp frosts ensue during the winter months, and even the Yellow River, the southern boundary of this province, is often obstructed with ice. Ice houses are far more common than in this country, though the ice is generally used to preserve fish rather than as a summer luxury for the table.

The productions of this province are Tea, Rice, Millet, Maize, Fruits, &c. Lat. about 34 to 37° N. Lying parallel with Gibraltar, and northern parts of North and South Carolina.

3. SHANSI is a northern frontier province, west of Chihli, and about the same latitude.

Its surface is mountainous, hilly, rugged, its winter cold, and temperature freezing. Productions: Grain, Millet, Wheat, Vegetables, Fruit; we have no reliable accounts respecting the production of Tea, excepting the general one that it grows in all the provinces. Lat. 35 to 40°. Parallel with Virginia.

4. The province of HONAN, south of the Yellow River, is situated near the centre of the provinces. The face of the country is generally a rich plain; but the south-western part of the province is intersected with hills and corresponding valleys.

The temperature, cold in winter, both frost and ice.

Productions: Tea, Silk, Cotton, Hemp, Flax, &c.

Lat. 32 to 35. Parallel: North Carolina, South Carolina, Georgia, Alabama, and Mississippi.

5. We now come, as we proceed southerly, to the maritime and central provinces of China, forming the finest and most productive agricultural districts of the Empire, and producing the greatest abundance of Tea. From these provinces the bulk of the Tea exported, which by the way is but a very small proportion of the quantity grown, is principally derived, and from the latitude we can easily perceive the corresponding districts of our own country.

Kiang-nan,	Lat. 30 to 35	} All these provinces are intersected by mountains and hills, numberless rivers wind their course from the mountains and high lands to the ocean, and the soil is as diversified as the surface.
Che Kiang,	" 29 to 30	
Kiang See,	" 24 to 30	
Fokian,	" 27 to 28	
Ilamur,	" 25 to 30	
Kwangsi,	" 22 to 25	
Kiang See,	" 30 to 35	
Kwangtung,	" 22 to 25	} The productions common to all, are Tea, Cotton, Silk, Rice, Grain, Tobacco, and all kinds of vegetables and fruits grown in temperate climates, &c. Indian corn is the production of every State in the Union, but in some it grows more luxuriantly and is cultivated more generally than in others. It is the same with regard to cultivation of Tea in China. It covers the Empire and yet is more productive and more generally cultivated in some districts than in others.

Upon the authority of Dr. Abel, the district more particularly appropriated than any other to the cultivation of Green Tea, lies at the base of a ridge of mountains which divides the provinces of Che Kiang and Kiang-nan, N. Lat. 30 to 32°. The Black Tea District in the province of Fokian, is situated on the south-eastern declivity of a ridge of mountains dividing the provinces of Fokian from Kiang See, Lat. 25 to 28. Very little Tea is produced in the neighborhood of Canton, or south of that city, Lat. 23° 8'.

Experience proves that the solar heats of equatorial latitudes are incompatible with the vigorous and productive growth of the Tea Plant, and that the subdued climate of the temperate zone is congenial to its nature and its native home.

SOIL AND LOCATION.

Having shown that the Tea Plant flourishes in its greatest strength between the 20th and 40th° of Lat., and contrary to popular opinion in this country, is proof against the severe frosts, snow storms, and all the stern severities of winter, we proceed to consider the soil and location best adapted to the production of Tea.

Writers, who have visited the various Tea Gardens in China, agree in the fact that a hilly, if not a mountainous country is to be chosen for Tea Plantations, rather than low, flat, alluvial, wet bottom lands, however rich and productive they may be in other kinds of produce.

The plantations in China are generally located in the lower and more fertile sides of hills with a southern aspect, extending from 5 to 600 feet above the plain down into the valley, avoiding springy and wet soils, and of course a clayey sub-soil. All that is required in this respect is that the soil should be sufficiently retentive of moisture to nourish the plant. A free generous soil, too high upon the

slope to allow the plants to be injured by springs of water from the sides of the hills, and too low to expose them to the violence of storms.* The easterly, are the only winds injurious to the plant, and it is of no avail attempting to cultivate on an easterly exposure.

Mr. Gordon associated with the Assam Tea Company in India, visited the Tea Hills at Toa-be in 1834, and affirms, that the soil of those gardens was little more than sand and yet required no manure. Mr. Fountain, on the contrary, who visited the Tea Gardens in China, affirms, that the plant requires a rich and well cultivated soil.

Being myself a practical amateur horticulturalist, I think there cannot be any difficulty in deciding between the two. I have always found that plants of every description require something to live upon, and as a general rule, the better they are fed the more luxuriantly they grow. But when we consider what a heavy and continued draft is made upon the Tea Plant by constantly plucking, not only its leaves, but its early buds; I think there can be no doubt but that its healthful and vigorous growth depends, in a great measure, upon suitable and abundant sustenance; and that its very life is at stake, and liable to be prematurely sacrificed by starvation. Therefore I would recommend cultivating the Tea Garden as every Garden should be cultivated, by ploughing, digging, hoeing and manuring, when the soil requires it, and keeping it clear from weeds, clean, and in good heart. Nothing is ever lost by good husbandry, nothing gained by bad. No cultivator can be deluded into the expectation of reaping a crop from a mere sand bank; the idea is preposterous. In the Tea districts of China, every cottager has his Tea Garden, from one to five or six acres, the produce of which supplies the

* Fountain. Gordon's Journey to the Tea Hills at Toa-be. Chinese Repository, Vol. 4, 1835,-6.

wants of his family, and the surplus is sold to the Tea dealers, who go about the country to purchase and prepare it, for home and foreign markets. A gravelly sub-soil covered with just that coating of rich mould, which gives growth and beauty to our mountain foliage, and abundant crops to our spreading valleys, will unquestionably naturalize the Tea Plant, and invest it with all its native grace and excellence.

The quality and flavour of the Tea Leaf is not only affected by the soil, climate and location, but by the character and quality of the manure used in cultivation. From the general tenor and drift of the agricultural reports published in this country, I am constrained to believe that our farmers and horticulturalists have paid more attention, indeed their chief attention, in their experiments upon manures, to the *quantity* rather than to the *quality* of the produce grown.

In this way it may happen, and I am certain it does happen, that the inferior quality of the larger bulk is often less valuable than a smaller bulk of superior quality, and thus if I may indulge an Hybernianism, the success of the experiment is a failure. This is in perfect accordance with the fact observable in the growth of other plants. As this point is curious and of great importance, and of daily application to the husbandman, I beg to call his particular attention to it, and to illustrate it by a single example, drawn from my own experience, and for the correctness of which I can vouch. Take the article of celery which I have been in the habit of cultivating for my own table for nearly half a century, and which I presume is familiar to you all. This vegetable depends entirely for its flavour upon the character and quality of the manure used in its cultivation, and not at all upon the kind of soil contiguous. I am quite certain that I can grow celery twice the size of any I have seen in this country, and yet I am equally certain

that it would not be fit to place upon any gentleman's table.

The great strength of the manure, teeming with ammonia, and offensive to the senses, necessary to produce celery of a giant size, communicates a strong offensive fibrous smallage character to the plant which destroys its delicacy, and renders it fit only for the manure yard. If the manure before it is put into the trenches be thoroughly cured, the heat and ammonia expelled by age, and the whole mixed with rich mould and chloride of lime, the composition is sweetened, agrees with the plant, and produces a rich, tender, sweet, stocky, and most delicious head of celery. The same principle is applicable to varieties of potatoes. But I cannot pursue this enquiry further at the present moment, but content myself with having brought it before you and commended it to your practical consideration. Undoubtedly the fruits of the field are directly affected by the peculiar properties of the aliment upon which the plant feeds, and that a superior flavour may be given to most of our fruits, or they may be divested of it, by the appropriate character of the manure and its judicious application by the farmer.

Chemistry has done much for practical husbandry, but personal experience and close observation are, after all, the most certain and instructive laboratory.

I see no reason why the quantity, quality, and flavour of the Tea Leaf may not be effected in the same way as other plants, by the process of manuring. It is quite possible that by very high manuring we may obtain a greater weight of Tea Leaves of inferior quality, than by a more restricted system, and yet the superior quality and flavour of a smaller quantity from the same number of plants, may overbalance in value the larger quantity.

That our soil will produce the Tea Plant, a native of temperate latitudes, is inferred from the fact that it produ-

ces every other species of vegetable indigenous to the temperate zoe. It would be an extraordinary thing if the Tea Plant were the only one it will not produce; an absolute phenomenon; nay, well nigh a miracle! seeing it would amount to a suspension and contravention of the established laws of nature. We must therefore maintain, until we see far better evidence, to the contrary, than can be found in popular opinion, that our soil will produce every thing that grows in the temperate latitudes of this world, without one single exception.

If the location of Tea Plantations requires a mountainous district, undulating hills, picturesque glades, sloping lawns, luxurious valleys, northern barriers, eastern bulwarks, and the warm beamings of a southern sun; a munificent Providence, foreseeing all these requirements, has bountifully provided and entrusted them to the hardy, vigorous, industrious husbandman of our country. God has left him nothing to ask, he is only required to act.

ESSAY II.

Cultivation simple and easy—Manner of planting the seed—Cultivation of the plant—Picking the leaves—Labor of women and children—Cost of picking—No improvement attempted by the Chinese—Mode of curing Tea in China by firing and sun drying—Mode proposed in the United States, by sun drying only—Great reduction of labor and expense—Tea better cured—Superior quality of Tea sent from China to Russia—Its cause—Age injurious to the quality of Tea—Dyeing Teas in China—Number of plants upon an acre—Product of the plant—Total expense of gathering and curing Tea.

1. **PLANTING.**—No plant is more simple in its cultivation, and none requires less skill and attention than the Tea Plant; any one who can cultivate a cabbage can cultivate the Tea Plant. The Tea Seed as has been already remarked, is about the size of a buck-shot. In China it is sown so soon as it ripens in Oct. and Nov. The hole, like a hill of corn, is three or four inches deep and several seeds are thrown into one hole, as the greater part of the whole do not vegetate at all.* The sprouts appear the second or third month after the seed is planted, and as they grow, the earth is gathered or hoed up a little round the root. These plantings are in seedling beds of good, though not rich soil, and planted thick. When sufficiently grown for transplanting, they are set in rows, four feet apart each way, for permanent growth, so that an acre of ground, 400 feet by about 109, will require 2500 plants to stock it fully. The plant is not generally manured, nor is it subject to irrigation, a branch of cultivation so common and expensive

* Foreign Missionary Magazine. Sir George Staunton's Embassy.—Fountain.

among Oriental nations. Nor would it be practicable to adopt the system of irrigation generally in the Tea Plantations of China, seeing they are often situated upon the sides of hills and mountains; formed into hedges, and in fact placed just where a footing can be found for their support.

I do not mean to be understood as asserting that the Tea Plant is *never irrigated*, for I am aware that in some districts it is, but that generally it does not require the application of that labor.

The Plantation now requires no more care than any ordinary fruit orchard, for three years, when the plant has acquired sufficient growth and the leaves sufficient maturity to pluck for use. The Plant, however, continues to improve for seven years, when it comes to full maturity. But the plant continues to thrive until it attains the age of from ten to twenty years. This is the Chinese mode of planting. But my own method, is to plant the seed in drills about four inches apart, in rows fifteen inches apart, which allows sufficient room for hoeing and cleaning between the rows.—Whatever blanks may be discovered in the rows by the failure of the seed to vegetate, may easily be supplied from the young shoots, and the plants thus stand all in regular compact rows, ready for final transplantation. The lands in China, farmed out in small lots among an exceedingly dense population, are so valuable, that the occupants often cultivate green vegetables between the rows of Tea Plants, and thus extend their crops. Necessity may compel, and perhaps justify, such an unwise mode of cultivation. But unless the land is very highly manured, nothing is gained, but labor lost, what one plant gains, the other loses. Both are partially starved, neither fully fed.

2. CULTIVATION.—There cannot be a greater mistake in the art of cultivation, than that of huddling plants one upon another. It is like setting one potatoe before two Irishmen: there is not enough for both, and being equal-

ly hungry, they are very likely to quarrel for possession. The roots and fibres of plants are far more numerous, and extend three or four times the distance that is generally imagined, and they are just as sensitive to short commons, as the farmer himself. Let them have elbow-room and plenty of food, and it must be a bad season, if they do not flourish.

3. GATHERING.—There are three pickings of leaves, sometimes four, during the season. The husbandman will perceive when the leaves are ready for gathering. In the district of Chekieng, near Ningpo, Lat. 31° , the first crop of leaves is gathered about the middle of April, varying, of course, according to location, and the early or late appearance of Spring. This gathering consists of the young *leaf-buds* just as they begin to unfold, and makes the finest quality of Tea. They call it in China, Young Hyson or Gun Powder, and it is held in the highest estimation by the natives. In two or three weeks from the first picking, or early in May, the shrubs are again covered with fresh leaves and are ready for a second gathering. This is the most important. The leaves are more fully grown, more abundant, and less labor is bestowed in the gathering. The leaves do not require to be plucked singly like the buds, but they are rather stripped off the branches. The third and generally the last gathering, takes place so soon as the new leaves are formed, and produces a coarser, and inferior kind of Tea, used profusely by the laboring class of people. It will be perceived therefore, that the same plant produces annually three or four different qualities of Tea, and of course of different value.

The labor of gathering the leaves is performed chiefly by women and children. They wear a white cloth over their heads to protect them from the heat of the sun. Each person carries a little stool with one sharp foot, which is stuck into the ground and serves as a seat; also a small round

basket which holds about a peck and a half.* Thus equipped, you will perceive the labor is light and the employment agreeable; indeed it furnishes a suitable occupation at a suitable season of the year, for the aged matron, who can sit upon a stool and pick a leaf, or the infant of tender years who cannot be overtaken by so simple and light employment, or the lady of high degree who may prefer the gentle exercise and fresh breezes of the morning air, to the close confinement of domestic duties.

It is considered a good day's work, to gather from twenty-five to fifty pounds of green leaves. The women and children, are paid about one-third of a cent, for gathering a pound of green leaves, or ten cents for thirty pounds. Five pounds of green leaves, produce one pound of dry tea.

CURING.—Although I design to avail myself of the Chinese mode of cultivation and of curing teas, so far as it is applicable to our country, yet I shall neither adopt myself, nor recommend to others any particular practice *because it is Chinese*. More especially do I consider this course expedient, when I consider that this singular people are not distinguished for independence of thought, or intellectual pre-eminence, but have continued to follow in the footsteps of their ancestors, from generation to generation, without making the slightest improvement in their government, laws, literature, agriculture, commerce, and religion. An absurdity once established, is an unmodified absurdity forever.

I am aware that we have much to learn from our own experience, but there are some philosophical principles which lie within the reach of common sense, and which no Chinese apathy can obscure, or obstinacy change. Under the head of curing Tea, I purpose pointing out some par-

* Chinese Repository. Foreign Missionary Magazine. William's Middle Kingdom of the Chinese Empire.

ticulars which I apprehend, although differing widely from Chinese customs, will prove, in a view of extended cultivation, of vast consequence to the agricultural interests of our country.

There are two methods of performing the operation of curing Teas practised in China. One for home consumption, the other for exportation, although both methods are sometimes used reciprocally. I will explain both, and show that our imported Tea can never, by any possibility, equal in richness of flavor, the Tea consumed in China or exported by land to Russia; and at the same time point out a decided improvement which may be introduced in this country, resulting in reduction of labor and expense, and a greater perfection of the Tea.

So soon as the Green Tea leaves are plucked, they are spread in the shaded sun for a short time and suffered to wither. When they begin to have a light withered appearance, they are taken into the house and placed on a frame work to cool for half an hour. They are then put into small baskets, and workmen are employed to soften the leaves still more by clapping them gently between their hands for a few minutes. They are then put on the frames again for about half an hour, until the leaves become to the touch like soft leather. Next comes the process of *Fireing*. The leaves are put into thin, shallow, round cast-iron pans, which are fixed in a circular mud or brick fire-place in such a manner that the flame of the fire cannot ascend, to annoy the operator. The pans are well heated with straw or any combustible matter, to a degree less than scorching heat. About two pounds of the leaves are put into each pan and spread so that the leaves may receive the same degree of heat. To prevent burning, the leaves are constantly turned with the hand or a bamboo brush. When the leaves become sufficiently hot to inconvenience the hand, they are taken out quickly, and delivered to another person with a

close basket to receive them. After the pans have been charged three or four times in this manner, a bucket of cold water is thrown into the pans, and a soft brick bat used with a broom to scour them out. The water is thrown out of the pans by the broom upon one side without disturbing the pans.

The leaves all hot as they come from the pans and baskets, are spread on a bamboo table with a narrow rim upon its back to prevent the baskets from slipping off when pushed against it. About two pounds of hot leaves are divided into two or three parts, and distributed to as many workmen who stand round the table with the leaves before them.—The leaves are collected by them with their hands into a ball and propelled along the table, the right hand gently pressing the ball down to give it consistency and to express the juice from the leaves. The art consists in giving the ball a circular motion, and permitting it to turn round, in and under the hand two or three whole evolutions, before the arms are extended at full length and drawing the ball quickly back without leaving a leaf behind. This operation is continued from five to ten minutes. The ball of Tea is occasionally opened out with the fingers, and raised as high as the face, and let fall again, to separate the leaves.*

The leaves now undergo a second operation of firing in a manner similar to the first; and then a second rooling; after which, they are put into the drying baskets, and spread on a sieve which is in the centre of the basket, and the whole placed over a charcoal fire. This is carefully regulated, the charcoal judiciously selected, and the fire fanned when lighted until it gets into a fine glare, and every particle of smoke is expelled. When the leaves are put into the drying basket, they are gently separated by lifting them up with

*Dr. Ure's Dictionary of Arts and Manufactures. Chinese Repository, vol. 8, p. 14.

the hands and allowing them to drop. They are placed four or five inches deep upon the sieve having a passage in the centre, for the heated air to pass through; this is the third and generally the last process of firing. The Tea is now assorted, prepared for sale, and disposed of to the Tea merchants.

The first gathering, you will remember, was of the *Tea buds* just upon their opening into leaf. All that quality is gathered bud by bud, rooled separately by the fingers, and forms that small round Tea, called Gun Powder. The succeeding crops, go through a less exact and elaborate manipulation.

This tedious process of firing is undoubtedly necessary in China, when Teas are cured for exportation to Europe or the United States. The length of the voyage, renders the entire exclusion of moisture, and its consequent exposure to vegetable heat and incipient decomposition, indispensable. But the same reason does not rule, in reference to the United States. The introduction of Atlantic Steam Navigation, supersedes the necessity of curing Teas for exportation to Europe by firing. We can sun dry all our Teas and deliver a cargo in fifteen days from the port of shipment, instead of one hundred from the ports of China or India. In twenty days from the time of plucking the leaf, we can deliver Tea to the consumer in London or Paris, fresh as if grown in Kew gardens, or the garden of plants. Such an advantage, if it stood alone, is certain to give the American cultivator the pre-eminence in supplying this great staple of consumption, to the population of Europe. No competition can stand against it. We have the right, the privilege, the power, and none can pluck them from our hands. We must supply Tea for our own consumption, and for the nations of Europe, because we can supply a better quality at a cheaper rate than any other nation. In this respect we are not the middle Kingdom of China, but the middle Kingdom of the civilized world.—

The blessing of God, our own industry, and Steam Navigation, will force upon us the Tea trade.

SUN DRYING.—But to proceed to the second method practiced in China of curing Tea, that of Sun drying.—This mode is confined to Teas for home consumption, and exportation by land to Russia, and is, I apprehend, the only mode adapted to the practice of this country, whether the Tea be designed for home consumption or exportation.

Every horticulturist of ordinary experience must be accustomed to cure domestic herbs, as mint, sage, sweet marjoram and the like, for family use. He knows the exposure of herbs to a very hot sun at first, is not the best way of curing them; but a shaded sun and dry air will accomplish the object in a more gradual and perfect manner. The herb is perfectly cured, the whole flavour retained, and the labour trifling. Independently of the saving of labour, the great advantage of sun drying results from the fact that the aroma of the Tea, its rich fragrant properties, escaping from the essential oil of the leaf are more entirely preserved, and our American sun cured Tea must of necessity, and as a natural consequence of that mode of curing, be far superior to any that can be imported from China or India. From 1810 to 1815, I was engaged in the Russian trade between London, St. Petersburg and Archangel. I used to request my Captains to bring me a small catty of Green Tea when they returned from Russia for my own use. I could not import any large quantity, as I was obliged to smuggle what I did get, because the East India Company, under their gigantic chartered monopoly, stood like an avenging angel with flaming sword to defend and protect their paradisaical Tea Gardens from the encroaching foot of the less privileged. But I always succeeded in getting in a small quantity. That Tea delighted and astonished all who drank of it. The room where it was made was perfumed with the most del-

icate and exquisite fragrance and the luxury to all lovers of good Tea, could not be paralleled in London. At that time I only knew the fact, but was entirely ignorant of the cause of this excellence. But since my attention has been drawn to the cultivation of the Tea Plant in the United States, I learn that all the Tea destined for the Russian market from China, is *sun dried*, and all of course transported by land carriage. The mystery is explained, the cause of superiority developed and a lesson recorded for our instruction.

Age is detrimental to the quality of Tea. It divests it of a portion of its aromatic properties, and causes a lifeless, spiritless, tasteless insipidity. The charter of the English East India Company compelled the corporation always to keep a year's stock on hand. The consequence was, the people of England always drank old, and therefore bad Tea, sometimes two or three years old. It is a singular fact that they had used it for so long a time, that even the old Tea dealers of London were perfectly satisfied that old Tea was better than *new*, and that no Tea was fit for use until it had been kept two or three years. At the time when the East India Company monopoly was abrogated in 1833, and went into full effect in April, 1834, I remember holding an argument with an old Tea dealer in London, who had been all his life in the Tea trade, upon this identical point. He maintained most strenuously that we should find the opening of the Tea trade a most tremendous and aggravated evil, because the market would be inundated *with fresh* Tea, and we should have none old enough to be fit for use. In corroboration of my opposite views, I mentioned to him a circumstance which occurred in 1807. I was on a journey in company with the late Col. Humphrey ex-minister to the court of Madrid, and his lady from Rotterdam to Paris. We arrived, after stopping a short time at Antwerp, at Brussels in the afternoon. Being much fa-

tigued, for we had no steam ships or railroads in existence then, we ordered Tea with our dinner. It was peculiarly fine and exceedingly fragrant; I could find none equal to it in London. I called the waiter to enquire where it was obtained. He replied that an American ship had just arrived at Antwerp from China, and this was some of her tea. Here was another exemplification, and it seems extraordinary that any exemplification at all should be necessary of so plain a matter of fact, that this comparatively new Tea had not had time to lose its original fine qualities by age, seeing we drank it as near the time of its being cured as practicable. My argument however availed nothing against deep rooted and full grown prejudice, and my old friend, the Tea dealer, remained of the same opinion still. But time and truth which tread down ignorance and folly prevailed at last, and the Tea drinkers of England have learned that old Tea is a very different thing from old wine.

One more testimonial on this point will suffice.

The Foreign Missionary published in New York, September, 1847, No. 47, contains an article from an American Missionary, giving an account of his journey to the Tea Gardens near Ning-po, where Green Tea is grown. He remarks that "we drank some Green Tea in less than thirty-six hours from the time the leaves were plucked from the plant. There is hardly anything so delicious as fresh Green Tea drank, as the Chinese always drink it, without sugar or milk. But," he continues, "you must come to China if you wish to taste this luxury, for all green Tea loses *much* of its flavour by being kept; and the *finest kinds* will not bear to be transported across the ocean." This, a late and undeniable authority, is sufficient I trust to establish the facts for which I contend, that we shall never have the finest qualities of Teas until we cultivate them ourselves, and negative the opinion that we must make a voyage to China for a cup of good Tea.

Considering the dry atmosphere, air, and hot summer's sun with which we are favored, I apprehend we cannot have any occasion for *fireing* the Tea Leaf at all. But a judicious system of *sun drying* is all that can be required in this country in fine weather. In foul weather and a pressure of work, an air stove, easily constructed, would be a cheap, cleanly, and I think effectual method of curing the leaf.

The manipulations of the leaves, whether old or young, can be of no use excepting for a disguise. The quality of the Tea cannot be changed by changing the shape of the leaf, abundantly evidenced by its resuming its original shape by infusion in boiling water. I cannot help thinking therefore, that all this studious preparation aside from drying, is entirely adapted to the eye, and by long continued custom the thing becomes in some degree necessary to meet the fashion of foreign markets, and gratify the pre-conceived notions of an ignorant and formal people. But there can be no necessity for treading in the footsteps of ignorance, and relinquishing the dictates of common sense until we find by experience that a Tea leaf must be rooled into a wad before its Tea-making properties can be developed. This is a match to the wisdom of the old Tea dealer. At any rate we know, if any benefit results from rooling the Tea leaves in the process of curing, we can perform that operation just as easily and just as cheaply as a Chinaman.

DYEING.

Although we can hardly consider the Chinese a very knowing or a very wise people, yet they are knowing enough, and wise enough, and cunning enough, to adapt the style of their commodities to the taste of their customers.

When they perceive that their English and American purchasers judge the quality of Teas by their colour, rather than by their taste, their ingenuity is challenged to suit the

colour to the market, and by the use of various dyes and drugs to make the worse appear the better quality. This is an habitual and common practice. Logwood, copperas, carbonate of copper, prussian blue, &c., are all used according to the shade of colour and particular bloom required. But perhaps the most deleterious of all the dyes used is the prussian blue, a subtle poison, most destructive to health, and the only reason why we are not poisoned to death out and out, is that the quantity used is not quite sufficient. But although the Chinese are not very particular to guard the health of their neighbors, they are vigilant enough to watch over their own. They never poison themselves. They are satisfied with the taste and quality of the Tea without regard to the colour. If this does not show genius, at any rate it shows a roguish disposition to accommodate us barbarians, by gratifying our national whims when it is their interest so to do. I propose to abolish all dye shops and to preserve the quality of our Tea beverage, by the exclusion of all poisons and all other drugs from the Tea-pot, and by a complete restoration of the herb to its natural purity. If this purification should in any degree contract the circle of medical practice, and curtail the bills of mortality, it will show that the tomb has already received its tribute from that source, and we decline paying any further demand.

It is not enough to satisfy ourselves that the Tea Plant will flourish in the United States. It is necessary to consider its product and the expense of growing and preparing the leaf for consumption. If the cultivation will not remunerate the husbandman, it is of little consequence whether the plant will grow in our climate or not.

It has been already noticed that the Tea Plant is set in rows four feet apart each way in regular plantations. An acre of land therefore, 400 by about 109 feet, will receive 2500 plants. The average product of *three years old plants*

according to Mr. Gordon's Report, which is the lowest estimate I have seen, is $1\frac{1}{3}$ ounces of dry Tea for each plant, equal to 208 pounds an acre. But the product of more fully grown and larger sized plants will average about 5 or 6 ounces for each plant, and some have estimated the largest trees to average from 16 to 24 ounces each.* But I think the range of productions from the lowest estimate for young plants, $1\frac{1}{3}$ ounces, *av.*, to the highest for larger plants, 6 ounces, may be depended upon as correct general average product. No doubt some plantations will be more productive than others, from better cultivation, better soil, and better location, and we may fairly take the general average of production at $3\frac{1}{2}$ ounces, *av.*, for each plant—equal to 547 pounds per acre. The value, like cotton, tobacco, wine, and other products of the vegetable kingdom, will depend upon the quality. The finest bud Tea will be worth two dollars a pound; the coarsest and inferior qualities, perhaps fifty cents. An assumed average may be taken at dollar a pound.

THE EXPENSE OF GATHERING AND CURING THE LEAVES.

The labour of gathering the green leaves in China is performed by women and children at task work. One cent is paid for three pounds of green leaves.

EXPENSE OF CURING IN CHINA.

The labour of curing Tea in China is performed by professional men, who travel about the country with the necessary implements for firing and kneading the leaves, as they are sent to the drying establishment, constructed for the purpose. The regular charge is five dollars a pecul of $133\frac{1}{3}$ pounds of dry leaves. The total charge therefore

* Foreign Missionary, August, 1847, New York, by W. M. L.

from the shrub to its preparation for market, is for gathering five pounds of green leaves equal to one pound of dry Tea.

Curing, - - - - -	One cent—66 mills <i>bl.</i>
By professional men for market,	Three “ 70 “ “

Five Cents, Thirty-six Mills, 5 36 per pound.

To prepare Tea for home consumption or exportation in this country, we do not consider it necessary to go through the process of *fireing*, nor the various manipulations connected with that process; the expense of labour will therefore be proportionably diminished, and supposing, what undoubtedly is the fact, that the value of labour is much less in China than in the United States, the difference in the quantity of labour expended will probably equal the difference of value, and reduce the actual expense in both countries to about the same level. Five dollars and thirty-six cents, will, we imagine, cover the expense of gathering and curing a hundred pounds of Tea in the United States. But whether it will or not, there is ample margin for a greater expenditure, should it be necessary, without extinguishing the ardor, or discouraging the hopes, or materially abridging the profits of the husbandman. So long as we can grow a pound of Tea, at as little expense as we can grow a pound of cotton, we shall never want a market nor encouragement to supply it.

We cannot ascertain with any accuracy the average rent and taxes upon an acre of Tea growing land in China, but we may venture to assert that the annual expenditure on that score, will exceed the purchase money of an acre of freehold land in this country.

ESSAY III.

Healthfulness of Tea Beverage—Exemption of the Chinese from the Influenza—Few Cases of Cholera in China—None of the Plague or Stone—Moral and Social Effects of Tea Drinking—Proved salutary in Russia and Great Britain—Chemical analysis denominates its wholesome qualities.

If I were about to recommend the introduction of a plant which in its use, could in any degree prove detrimental to the health of the population of the community, I should, whatever adventitious advantages it might promise, shrink from the responsibility. But so far from that being the case, he may boldly and fearlessly challenge the experience of mankind, the history of the plant, and the science of the materia medica, to produce a single instance of its deleterious effects upon the constitution of man. On the contrary, all combine to prove that nothing used as a beverage, has yet been discovered so salutary to the constitution, so agreeable to the taste, so refreshing to the spirits, so innocent in its essential properties, and so tranquilizing to the nervous system as the free use of Teas. Allow me to enlarge a little upon this point, and to adduce some powerful authorities to fortify and confirm these remarks. In China, where the plant is most cultivated, and has been from time immemorial, and most universally and most profusely used, we naturally look for the strongest and most unequivocal testimony of its practical consequences upon the human constitution. No other nation uses it at all times, and so generally, as almost entirely to exclude all other kinds of beverage. It is not an unusual thing for a labouring Chinaman to drink a hundred cups a day. It is always

ready prepared in a vessel provided for that purpose, and all this, which we should be apt to consider an excessive consumption, without the slightest injury to the general health and physical system. But it ought to be borne in mind that the Chinese use it pure, unadulterated with noxious dyes, and unmixed with exciting drugs. The celebrated Dr. Letsum, of London, raises his potential voice against the villainous habit of Tea dealers in vending Teas deteriorated by spurious mixtures of trash, worse he says "than dirt. The effects of bad Teas upon the system are always deleterious and distressing, if not positively dangerous. Constriction of the chest, depression, craving emptiness, sinking of the stomach, etc., etc., are the inseparable consequences. Whilst pure, good Tea exercises the most invigorating and renovating effects on the general system." The caution of the purchaser is one remedy, but he is not always a good judge, and often purchases Tea because it is Tea, without sufficient ability and experience to discriminate between genuine pure Tea and its worthless imitation. Therefore, the only certain protection against imposition, is to grow it one's self, and preserve it pure as he would any other herb of domestic use. One more case I beg to mention which involves matter for serious reflection, especially for the southern portion of our population. I find the article in an anonymous publication on the subject of Tea and its medicinal effects. The author quotes a letter written by an East India Captain in the East India Company's Service, addressed to the Medico-Botanical Society, London.

He remarks, "There are two circumstances connected with the exemption of the Chinese from epidemics, that have spread such devastation among the inhabitants of every corner of the globe, which have fallen particularly under my observation, and which I take the liberty of laying before you. The one is, that when in China, during the year 1829, the influenza prevailed to such an extent on

board the ships in the Fleet, and also among Europeans in Canton, that scarcely one escaped the complaint. On board one ship in particular, out of a crew of 136, no less than 120 were laid up with the epidemic at one time, yet neither then, nor up to the time of my last voyage to China, had a single Chinese, that I could hear of, been attacked with the influenza, although in the mean time this epidemic had spread over all India and Europe, and crossing the Atlantic, had visited America. The other fact is, that although on each one of eight voyages I made to China, many of my crew had fallen a prey to cholera, yet I have never heard of a Chinese being attacked with this fatal epidemic. And this is the more remarkable from the crowded population of the country, subsisting as they very often do on very unwholesome food. As then the Chinese, with whom Tea is the universaal diluent, have escaped diseases that other nations, and more particularly the Coffee drinking French, have suffered so much from, it may not be unworthy the attention of the society, whether Tea may not be regarded as the principle cause of this happy exemption from such fatal and wide spreading maladies."

The Captain is undoubtedly correct in respect to his immediate sphere of observation, Canton, at the time he wrote, as to the non-appearance of the cholera in China, but further evidence rebuts his testimony so far as it relates to that particular disease. Upon the authority of the Chinese Repository, it appears that the cholera raged at Ningpo in 1820-23, at Amoy and Changchau and the vicinity of those places in 1842. We have no account of its appearance in Canton, excepting a few cases in 1835.*

But it is a remarkable fact in connection with this branch of the subject, that the Javanese and Chinese Tea drinkers are entirely exempt from those two great scourges of the human family, the plague and the stone.† Nevertheless,

* Chinese Repository, Vol. 4, p. 48. † Chinese Repository, Vol. 1, p. 488.

when we consider the density of the population of China. 450 in some provinces to the square mile, and the vast aggregate of 300,000,000 who people the country, we cannot fail to perceive that the ravages of the cholera in China, compared with its desolating career in Europe and America have been small indeed. If we step from China to the vast empire of Russia, we shall find a hardy, vigorous, and healthful population, accustomed through all the various grades of society to the free use of the best Tea consumed out of China. We do not mean to affirm that this general soundness of health is the effect of Tea drinking only, but we do mean to affirm that Tea drinking has not impaired it, so that the evidence, though negative, is still in favour of the beverage.

In England, the consumption of Tea, even under the crushing pressure of a duty of fifty cents a pound, has greatly increased within the last few years upon the sole ground of benefitting and preserving the health. The current of popular opinion is setting strongly against the use of Coffee; it is considered as exciting to the system, provoking watchfulness, feverish re-action and plethora, whilst Tea acts as a gentle diuretic, promotes digestion, soothes the stomach, and tranquilizes, rather than excites the nervous system.

In France, as well as in our country, we usually find copious drinkers of Coffee dyed a beautiful saffron colour, affording the most palpable evidence of incipient disease and organic derangement. It is hard to change old habits and perhaps unfair to charge all our complaints to one, and yet it does seem a little singular when a person sees his own sallow face, that he does not take the hint, change his diet, and watch its effects.

In this country, particularly, there is a marvelous tendency in all classes to raise a mighty cry against the presence of bile, and to refer all complaints to its maledictive influ-

ence, just as if it were some poisonous substance which had crept into the system, instead of a necessary healthful element of our organic combination, aiding, and directing its functions in all the various operations of the animal economy.

At a meeting of the Academy of Sciences in Paris, M. Peligot read a paper on the chemical combinations of Tea. He stated that Tea contained essential principles of nutrition far exceeding its stimulating properties, and showed that Tea, in every respect, is one of the most desirable articles of general use. In one of his experiments on the nutritious qualities of Tea as compared with those of soup, the result was decidedly in favour of the former. It was found to contain a large proportion of azote approaching to animal matter, and to exercise a powerful influence upon the animal system, and particularly in its *promoting the secretion of bile*.

Coffee, as well as Tea, possess this chemical characteristic principle, and it is a singular fact that they agree in no other quality. It has been suggested that the extensive use of these two articles of food and luxury among all the civilized nations of the earth, would seem to argue a manifestation of Divine Wisdom in providing them so abundantly for the health and enjoyment of the human family.

Tea beverage holds a moral, social, and religious influence over domestic society. The equanimity of the family circle is steadily maintained. A scolding, brawling termi-gant is out of place, she is more likely to be a Gin than a Tea Drinker. We would always have Tea upon the table if it were of no other use than to preserve and fortify domestic cheerfulness. To the ladies therefore, whose sphere is domestic tranquility and whose prerogative it should be to maintain it, the subject comes bearing its own recommendation in the cup, "that cheers but not inebriates."

Tea induces a subdued cheerfulness, adverse to hasty.

uncontrolled passion, brawlings, fightings, and tumultuous strifes; neither depressing the spirits, by gloomy shadows of future ills, nor elevating them beyond that sober and discreet point, consistent with the condition of mankind, hourly exposed to the various disasters and vicissitudes of life. The thoughts of one thus possessing his soul in cheerful tranquility sit easy upon him, and his faculties clear and undisturbed are always in a train to afford himself entertainment, to administer comfort to his neighbour, or, what is more important, to hold high communion with the Great Author of his being.

He knows how to enjoy and to relish in temperance, the blessings a kind Providence has spread around him, and others are imperceptibly led by the force of his example to participate in the same enjoyments. This is the highest attainment to which our fallen nature in its present transitory existence can aspire. Good health is so nearly allied to the temper of the mind, that we must always recognize its near affinity with whatever tends to improve or control it.

Water alone, although cherished by enthusiasts, and puffed by reformed drunkards, from the earthy substances held in solution, from the innumerable animalculæ sporting in their bath, imperceptible indeed to the naked eye, but visible and frightful enough when viewed through a microscope, is always unsuitable for a general beverage, and more likely to breed than to assuage disease. When purified by boiling and qualified by an infusion of Tea, it is divested of its impurities, ebbs and flows freely in its clarified state, through the delicate channels that receive it, imparting strength and vigour, and beauty to the human system.

The medical profession, whatever may be the vague and baseless opinions sometimes formed and expressed of the tendency of Tea to induce nervous affections, must nevertheless yield to the demonstrations of science followed out

by the enlightened practice of nations. The human mind expands as gradually as a cotton plant, and is always reluctant to abandon an old thought or to accord with a new one. When Tea was first introduced into Europe, about 1660, the public, who knew nothing at all about the matter, were greatly alarmed for the safety of the state.

A Frenchman raised a hue and cry against its introduction, and called it the impertinent novelty of the age. In Germany, Tea dealers were considered as immoral subjects, thieves, rogues, and hostile to the peace of society. A physician in England was more charitable. He considered the pretended virtues of Tea as a deep laid scheme to encourage its importation and to sack the pockets of the people. From that day to this, the consumption of Tea has continued to increase in both Europe and America, and the longevity of the people has increased with it. At any rate, in no Tea drinking country has the health of the people been abridged, or the measure of life shortened.

ESSAY IV.

China supposed to be the only country capable of growing Tea—Examples of Tea cultivation in districts out of China—Java—Brazil—Assam—District of Kamaon—North-west provinces of India.

The mind of all nations has been fastened exclusively upon the soil of China as the only land which Divine Wisdom has prescribed for the cultivation of the Tea Plant. Until very recently, no efforts whatever have been made to test the validity of this established opinion, and to show that the Celestial Empire has no charter guaranteeing to her the monopoly of this vast and profitable field of agricultural industry. The supremacy of intellect in this country has bowed submissively to the common delusion without enquiry into its character, and without the slightest attempt to dissolve it. It becomes therefore a matter of paramount importance to examine how far we can gather evidence from actual experiments to prove the fallacy of such opinions, and to fortify and confirm our views in the prosecution of an agricultural enterprize, new to our country.

All the experiments that have been made are of recent origin; if all have failed we must admit the evidence is against us, and our prospect of success too circumscribed to justify another experiment. But if, on the contrary, *no* experiment has failed, but *all* have succeeded, then we have a demonstration in our favour which supersedes the idea of its being a mere theoretic speculation, throws all doubt to the winds, and places the hope of the husbandman upon a basis, which cannot be shaken.

1st. The Dutch made the first movement to break the

charm of Chinese monopoly, by introducing and cultivating the Tea Plant, in their rich and fruitful colony of Java. That Island lies between the 6th and 8th degree of South Latitude. They succeeded in the cultivation. The mountain range which runs through the centre of the Island, is the most productive, because the Tea Gardens, extending from near the base, high up the mountains, reach an atmosphere tempered by elevation. The plant escapes the scorching heats of the torrid zone, and finds a climate by height, rather than by latitude, adapted to its nature. But the plant is not confined to lofty ridges. In the plains, the hedges, and fences if one may so call them, are all planted with the Tea shrub, which flourish in greater or less perfection throughout the Island. But, as has been already intimated, the equatorial latitudes are not the most auspicious for the vigorous growth of a plant that requires a temperature, equally removed from the extremes of heat and cold, and the quality of the Tea is as much effected by the climate as the growth of the plant. Considerable quantity of Tea is annually shipped from Java to Europe, but the extension of the cultivation is no doubt checked by the exceeding fertility of the soil, and its adaptation to the growth of the rich products of tropical regions.

2nd. The Tea Plant was introduced into Brazil about 1817, when the Royal House of Braganza emigrated from Portugal to that Colony. The plantations lie between the equator and 10° South Latitude, nearly parallel with Java, and of course are exposed to the same intemperate climate, and suffer in a similar manner. In addition to these physical disabilities, the enterprize has had to contend with the natural indolence of the natives, the universal repugnance to labour, the crushing effect of committing so important a work to the superintendence of slaves and overseers, the amazing fertility of the soil, the extent of unappropriated land, the ease with which subsistence can be obtained

and the low degree of personal enterprize. These are frowning features and would rather seem to indicate a failure before the attempt at cultivation was made. But nevertheless the plant does flourish to some extent even in Brazil, under all the disparaging circumstances which surround it. From the Brazillian Consul General, Louis H. J. De Aquiar, Esq., whom I have consulted on this subject, I learn that although the plant for some years after its first introduction received but little attention, and was almost abandoned, yet within the last few years the cultivation has revived, and is now prosecuted with energy, and with a corresponding success. Some of the large and wealthy land proprietors of Brazil have directed their attention to the cultivation of the Tea Plant; and he mentioned one gentleman in particular, whose name I do not at this moment recollect, who had entirely abandoned his Coffee Plantations, and directed his attention to the cultivation of the Tea Plant. The market of Rio Janeiro is supplied entirely with Tea of domestic growth, and the public mind is awakened to the prominent fact, that no plant cultivated in Brazil is more profitable, and none is now receiving more decided attention.

But as the veil which has hung over this subject for all past time is lifted, and the clear light of demonstrated facts disclosed, we shall perceive that the nearer we come to our own times, the more decisive is the evidence of the practicability of breaking up the Chinese monopoly and of freely participating in the benefits which that monopoly has withheld.

To Great Britain* we now turn our eyes to witness the most promising and satisfactory efforts, that have as yet been made, to extend the cultivation of the Tea Plant, and to render the British Empire independent of China, for a supply of an article of consumption so indispensibly necessary as Tea. Considering the commercial and agricultural

enterprise of the English, the contiguity of India to China, the vast amount of Tea imported, and the ample means and resources always at command. it does seem surprising that so important a step should have been so long delayed. We cannot account for it upon any other hypothesis than that Great Britain has hitherto been more eagerly bent in extending, rather than improving her Indian conquests.

The Kingdom of Assam, lying upon the eastern frontier of India, between Lat. 25 and 28° N. is now under the sway of the British sceptre. In 1834, a project originated in London to introduce the cultivation of the Tea Plant into that Kingdom. The northern section of the Kingdom being a broken and hilly country, was wisely selected as the most favourable location for the experiment. A joint stock company was organized in London with a large capital, and the secretary of the company, Mr. Gordon, dispatched to China in 1835, to reconnoitre the Tea-growing districts, and collect such information as might forward and facilitate the operations of the company. His success was partial, arising from the natural jealousy of the Chinese, and the difficulty encountered in penetrating the interior of the country. The information, however, which he gained, very important and very minutely recorded, was transmitted to Muttuck, in Assam, with the view of forming establishments for the cultivation of the Tea Plant. Singular as it may appear, it was now discovered that the Tea Plant was indigenous to Assam, grew naturally upon the hills and mountains, as evergreens do upon our hills and mountains and only required cultivation, to equal the growth of China. Samples of the Tea grown in Assam, were forwarded to London from time to time, (which I might have seen, as I was then residing in that city, and personally acquainted with some of the gentlemen concerned in the undertaking, and certainly should have seen, had I felt the same interest in the matter then, that I do now feel,) in order to test the

quality, and by exhibiting the product itself, to disarm opposition, and strengthen support.

So late as 1847, twelve packages of Tea containing, 533 pounds of black and 266 of green, were shipped to the directors of the East India Company the produce of Kumsoun, Assem, to have the value of this new article from India tested in the English market. The English Tea Company of Assem, has prosecuted the cultivation, with a zeal and perseverance, characteristic of the people. It is now regarded as one of the most important enterprizes connected with British India. A steam saw-mill was early established, and a steamboat provided. The former to prepare the chests and boxes for packing, the latter for navigating the river Mingan, for transporting the Tea to the shipping posts of India.*

The Friend of India, for March 12, 1840 remarks, "speaking of the prosperity and extension of the labours of the Company, "that no fewer than 1733 laborers have been sent to Assem from various parts of India, that 49 artificers have also been engaged, and 500 Chinese laborers, are on their way to Bengal, in the service of the Company." A communication has also been opened with the Burmese authorities, across the Monipur, with the Chinese province of Yunan, to induce Chinese laborers to emigrate to the Province of Assem.

The strongest expectations are indulged, that ultimately the cultivation of the Tea Plant in British India, will be carried to an extent sufficient to supply the English market.

The question, therefore, regarding the successful cultivation of the Tea plant, in districts out of China, is completely solved by this experiment. But we are not limited to a solitary example in the East Indies. In addition to information

* Chinese Repository, vol. 9, p. 112.

derived from personal correspondence with residents in the North West Provinces of India, I find in Simmons' Colonial Magazine, published in London, 1844, vol. 2d., an account of the experiments instituted at Kemaon, in the neighborhood of the Himmilay mountains, as well as at Almura, preparatory to the extended introduction of the Tea Plant. It is worthy of remark, that these plantations in N. Lat. about 30 to 31°, are more than 1000 miles inland from the shipping port of Calcutta, and still further from the plantations of Assem. "It would seem," says the writer, "that these experiments so far as they have gone, have been attended with complete success, but commenced as they were eight years ago (that is in 1836) we cannot discover from what cause so little progress has been made in the cultivation of the Plant, until two years ago, when the experiment was energetically carried on for the first time. In 1841 the nurseries consisted of twenty-three acres of ground, in 1843 they were increased to fifty-five acres, containing 43,000 Tea-bearing Plants, and 27,000 which will yield produce this year together with seedlings and cuttings, sufficient to cover fifty-five acres of land which has been prepared for their transplanting. During the current year, 1844, the amount of Tea produced will be very greatly increased and we may hope from the activity of the able superintendant of the Botanical gardens, Dr. Jameison who has charge of the Tea nurseries, that the cultivation of the plant, will soon be demonstrated to be so profitable as to induce private planters to turn their attention to it.

Specimens of the produce sent to Messrs. Thompson & Son, London, were declared by them to be fine flavored and strong equal to the superior black Teas sent them as presents, and better for the most part, than China Teas imported for mercantile purposes.

Such is the most conclusive evidence afforded by this second East India experiment in proof of the practicability

of growing the Tea Plant, in districts out of China. But in reference to the last experiment, it may be doubted whether a Botanical garden, however able the Professor presiding over its interests may be, is exactly the place for such an experiment. A gentleman who has all the exotics that can be collected, from the four quarters of the world, under his charge, can scarcely be said to occupy a position that would best qualify him to superintend the cultivation of the Tea Plant upon a national scale. By directing his attention to a great variety of agreeable objects, and spreading his paternal care over so large a family, he in some measure disqualifies himself for that constant, minute, and practical attention to *the Plant*, which, especially when under experiment, it demands at his hands. Such an enterprize requires the infusion of a little Tea-leaf enthusiasm—a devotion to the one great object in hand; an attachment to cultivation and horticultural pursuits for the love of them; an untired patience and ardent zeal in communicating instruction to others, upon the subject most immediately in hand, rather than upon the general science of Botany; particulars which can hardly be expected from a professed Botanist, and therefore we think the Editor of the Colonial Magazine may dismiss his surprize that so little progress was made at the commencement of the experiment, but rather congratulate the company that, under such circumstances, the experiment succeeded at all.

ESSAY V.

Adaptation of the United States to the culture of the Tea Plant—Position of those parts of the United States lying parallel with the Tea growing districts of China—Delaware—Maryland—Virginia—North Carolina—South Carolina—Georgia—Florida—Alabama—Mississippi—Louisiana—Arkansas—Missouri—Texas—Tennessee—Kentucky—Character of the population—Conclusion.

Having, as we trust, satisfactorily established the proposition by the evidence of repeated experiments in various and widely separated positions of the Globe, that there is nothing so peculiar in the climate, soil, and cultivation of Tea in China, as to confer upon or entitle her to exclusive privileges, or to restrain other nations from participating in the advantages of its culture; we may now proceed to examine the condition of the United States in respect to its adaptation to the growth of the same plant.

We learn that the plant grows most luxuriantly in China, between the parallels of 20 and 45° N. Latitude. But above 40° and below 20° the climate embracing the extremes of heat and cold, will scarcely admit of the full growth and development of the Tea Plant. The Temperate Zone, therefore, designated by nature, as equally removed from both extremes, has been found by experience, the best suited, in respect to climate, for Tea Plantations.

In taking a geographical and physiological view of that portion of the United States, presumed best adapted to the growth of the Tea Plant, we may assume the Latitude of 40° as the northern, and the Gulf of Mexico as the southern limits of the Tea growing districts. It may be a curious and perhaps useful inquiry as we proceed, to note the cor-

responding parallels of Latitude, so that we may see what places in China and India, fall under the same parallel as those in the same Latitude in the United States.

The extent of country lying south of 40° N. Latitude, embraces Delaware, Maryland, Virginia, North and South Carolina, Georgia, Florida, Alabama, Mississippi, Tennessee, Kentucky, Arkansas, Louisiana and Texas, fourteen states, and partially the four states of Indiana, Ohio, Pennsylvania and Missouri, whose limits, according to the above mentioned division, extend both above and below the Latitude of 40° . I am quite aware that this view, and indeed any view, which embraces the idea of growing Tea at all in this country, is altogether at variance with the one generally entertained; but, we trust that those who have had patience to follow us in the investigation, will see the error, and lend their influence in correcting it.

The maritime district of the territory comprised within the limits of the several Tea growing states, mentioned above, extending from Galveston to Delaware inclusive, and stretching from fifty to one hundred miles inland from the coast, being generally subject to annual inundations, and of a low, marshy, alluvial, sandy soil, is manifestly of a character destitute of the required qualifications for the growth and cultivation of the Tea Plant. We may therefore at once exclude all that strip of land from further notice.

Delaware, Lat. $38^{\circ} 27'$ to $39^{\circ} 50'$. The whole of this state is but little, and but a small portion of that little is adapted to the culture of the Tea Plant. Perhaps the only part of this state which affords a reasonable hope of success, is the northern and hilly district in the county of New Castle.

The Latitude of this county is parallel with that of Peking, the Capital of China, in the northern province of Chihli, and one of the finest Tea growing districts in China. Therefore, let not Delaware despair.

Maryland, Lat. $37^{\circ} 56'$ and $39^{\circ} 44'$. The mountainous and hilly western counties of Maryland, Alleghany, Washington and Frederic particularly, seem to offer choice and advantageous locations for Tea Gardens to a limited extent. The position of the mountains and hills, running east and west, and sloping to the south, presents the best possible aspect. The soil, limestone and gravel, is congenial to the plant, and combined with the favorable aspect, promises well for the future cultivator.

The Latitude of Maryland Tea growing hills, is parallel with Tsinan fu the Capitol of the province of Changtung, and one of the Tea growing provinces of China.

Virginia, Lat. $36^{\circ} 30'$ to $40^{\circ} 43'$. That there are mountains and hills and valleys and soils and rivers, in the wide spread domains of Virginia, sufficient to meet the demands of all the enterprising Tea cultivators in the union for many years to come, I think no one will venture to deny. The introduction of a greater diversity of agrarian products into the ancient dominion, together with a fresh infusion of modern dispatch and electric spirit, seems indispensably necessary to put forward the agricultural prosperity of the state. If any evergreen plant is indigenous to the soil, any exotic finds a congenial climate, then it is most certain that Virginia may herself, in a few years, render the Union independent of China for our daily beverage. Philosophy is the teaching of experiment, and as similar causes will, under like circumstances, produce similar effects, we argue that as the soil, climate, temperature and location in Virginia are similar to the same physical causes in China, we are justified in expecting, nay, are constrained to expect, the same effects.

The Latitude of Virginia, on its southern limit, being only one degree, twenty-six minutes below that of Maryland, the parallels of Latitude will pass through part of the Tea growing provinces, Shangtung and Shansi, north-

ward of the Yellow River, *Three and an half degrees south of Peking.*

North Carolina, Lat. $33^{\circ} 50'$, $36^{\circ} 30'$. Leaving the low, sandy, desolate and unhealthy coast, and penetrating the interior for about eighty miles we come to a broken and hilly surface, fertile soil, and salubrious climate, which seems formed and destined to be occupied by a vigorous and industrious population for the very purpose of enriching the state by the cultivation of the Tea Plant.

It will be noticed that we are now about 6 degrees south of Peking in a line parallel with the great Tea growing provinces of Kiang su, Honan and Shensi, south of the Yellow River, and if the Tea Plant will not grow as thriftily in the western part of North Carolina as it does in the above named Chinese provinces, there must be some physical cause which the wisdom and sagacity of philosophy have not yet discovered.

South Carolina, Lat. 32° , $35^{\circ} 8'$. No cultivator of the Tea Plant should waste his time in searching for a favourable location in this state to prosecute his labours, until he reaches the high hills of Santee about ninety miles from the ocean. He will probably find many places here suited to his purpose, but if he fails in that, he has only to push on to that portion of the state, usually called the Upper Country, in the north-western district, where he will find himself enveloped with hills and mountains, luxuriant valleys, crystal streams, the most fertile soil, an Italian sky, and a Mediterranean climate. He need go no further, if his object be to establish himself in South Carolina.

We are now *eight degrees south of Peking* and parallel with the three most abundant Tea growing provinces of Kiang su, Nganhwui and Hupeth. It will be remembered that Peking and the circumjacent district produces the finest Tea grown in China.

Georgia, Lat. 30 , 42° and 35° . The upland territory of

this state, lying between 33 and 35° of Latitude, presents features of a rough, hilly, and in some parts, mountainous character, which seem to designate it as the only favored tract in this state destined to form the Tea Gardens of Georgia.

Blessed with a diversified and fertile soil, a healthful and salubrious climate, there can be no reason why Georgia, like some of the provinces of China, should not convert a portion at least, if not the whole, of her upland cotton into Tea growing Plantations, and thus extend the circle of agricultural industry to embrace a greater variety of objects, and render those lands which are now the least valuable, the most productive and the most profitable.

We are now upon a parallel of Latitude ten degrees south of Peking and about the centre of the Tea growing districts of China. Parallel with the provinces of Kiang su, Nganhwui, Hupeth and Szchuen, in China, and Almura in the north-west provinces of India.

Florida, Lat. 25 to 30°. Notwithstanding the general aspect of this state does not present those rugged and austere features which are most congenial to the growth of the Tea Plant, yet we cannot doubt but that sections of lands may be found in the state suited to its cultivation. It being the most southern limit of what we have, by way of distinction, called the Tea growing districts of the United States, every one must feel the importance of extending the growth of the Tea Plant to that extreme limit and over the widest space; because it is in that way only we can learn the particular, as well as general capacity of our country for its production, and what is equally important, the various qualities of Tea which allotments of land in different states will return to the cultivator. We may indeed be embarrassed by physical impediments, or encouraged by physical advantages, which lie beyond our present view, and which can be developed only by

experiment, yet the magnitude of the result is a sufficient inducement to command a fair trial. We cannot help, therefore thinking that this sunny region will early rival the centipodes in the rich productions of her pregnant soil.

We are now fifteen degrees south of Peking, and the Latitude of Florida is parallel with the Tea growing provinces of Fuhkien, Kiang se, Hunan, Kwichau, and Chehkiang in China, Muttuck, and the Tea Gardens of the English Tea Company in the kingdom of Assem, on the eastern frontier of India, and at Almara and Kimaon near the Himmilay mountains, North-west provinces of India.

Alabama, Lat. 30° and 35° . The southern and middle sections of this state are subject to the same objections which have been noticed in reference to the Atlantic, and Southern States bordering upon the Gulf of Mexico. But North Alabama opens out an extensive field of mountainous and hilly land, which from the fertility and character of the soil, the temperature of the climate, and the general features of its surface seems particularly well adapted to the growth of the Tea Plant. The sublimity of the Blue Ridge, subdued to a gentle elevation, shaping its course from east to west, and sloping off in an inclined plane to the southward; presenting a sunny aspect on the one hand, and mountain barriers against the rude storm and boisterous winds of the north, on the other; point out this location as one destined to form extensive gardens for the future cultivation of the Tea Plant.

Its central position, in conjunction with the physical advantages, which show themselves on every side, lead us to pitch upon this district as best suited, under all circumstances, for the formation of nurseries of Tea Plants, as the basis of extended plantations and cultivation in those parts of the country, which the finger of Nature has pointed out as suitable to the growth of Tea. We are now about the centre of the Tea growing provinces of

China in respect to the parallel of Latitude, but not in respect to the extent of country. The portion of Alabama pointed out as suitable to the cultivation of the Tea Plant, would not equal in extent one of the seven Tea growing provinces of China, lying in whole or in part between the 30th and 35th degree of Latitude.

Mississippi, Lat. 30° and 35.° Divested of mountains and hilly districts, flooded to a great extent during the spring and rainy seasons of the year, by the overflowings of the river Mississippi, and spreading out a vast alluvial and rich cotton growing soil, does not seem to possess any of the requirements for the successful cultivation of the Tea Plant. A conclusion, drawn, it will be observed, from a Chinese practical view of the matter in their own country, without knowing how far the same requirements will be applicable to our own.

Louisiana, Lat. 29° and 30°. This state it may be remarked is not exempt from any one of the objections which overrule Mississippi as a candidate for the honors of the Tea Pot. We must relinquish all claims upon her in favour of the great staples of sugar and cotton; and, cannot, confer upon her, we fear, the additional boon of growing her own Tea.

Arkansas, Lat. 33° and 36° 32'. The middle and western parts of this state are described as hilly and mountainous,* and no doubt from the latitude and temperate climate of those uplands, an abundance of land may be selected, just as well adapted as any land in the United States or the Empire of China, in parallel latitudes, to the cultivation of the Tea Plant. Seeing a new and enterprising population are now rapidly settling that country, the Tea Plant will no doubt find friends and supporters so soon as it is known that the plant can be obtained.

* Murray's Encyclopedia of Geography, vol. 3, p. 577.

and that no more labour and care is required in its cultivation than in the growth and cultivation of a peach tree.

Missouri, Lat. 36 to 40° 35,' is the largest state in the Union, excepting Virginia; the latter covering an area of 70,000, the former of 66,000 square miles. It will be perceived that the state of Missouri lies, in reference to China, between Peking on the north, and the Yellow River on the south, embracing the northern Provinces of China proper and the district about Peking. There appears to be almost every variety of soil in Missouri that can be found in the same parallel of latitude in the United States. The surface of the state, rough and smooth, rocky and prairie, wet and dry, high and low, with a soil as various as its surface, present ample scope for the choice of locations adapted to the cultivation of the Tea Plant. And what a boundless market waits for supplies? Instead of importing Tea by the Pacific, she may send thither the produce of her own gardens. The west, the north, and the east will disclaim China, so soon as their wants can be supplied by Missouri.

Texas, Lat. 28 to 34.° This young state lies parallel with the middle and most extensive Tea growing provinces of China. The face of the country, in its middle, northern, and western sections, resembles, in many particulars, the corresponding domains of the Celestial Empire, and its climate is just that in which the Tea Plant most delights. The soil requires no aid from the art of man. Plant the shrub and you have the Tea. The native energy, enlarged thought, and bold adventure which impelled the original settlers to abandon their Atlantic homes, and brave the dangers of a wilderness and the hostility of uncivilized tribes, give sufficient guarantee that the opening prospect of a new branch of cultivation

will not be overlooked by the husbandmen of Texas, but rather awakens a secret expectation, that few years will elapse before we shall find the Teas of Texas in the Boston, New York, and Philadelphia markets ; and for ought we can know, in the cities of London and Paris. This would not be more extraordinary, however visionary it may appear at present, than the growth of cotton in the United States from the original seed, sprouting upon a dunghill, in 1786, to the enormous growth of two and a quarter millions of bales in 1847. When we see how much has been achieved and in how short a time by human enterprize, in the cultivation of cotton, we have reason to anticipate similar results from the same cause in the cultivation of the Tea Plant.

Tennessee, Lat. 35° to $36^{\circ} 40'$. The western slope of the mountains of East Tennessee, and still better, the southern slope of those in Middle and Western Tennessee, with their delightful vallies, undulating hills, productive soil, and healthful climate, all combine to recommend this state to the special notice of those who may give their attention to the growth of the Tea Plant. Although its cultivation has been hitherto neglected because no one has stepped forward to introduce and recommend it to public notice ; to make known the simple mode of its cultivation, and the ease with which so great and necessary an article of domestic consumption, that shuns the torrid, and delights in temperate climates, can be grown, yet we cannot doubt but that many, fresh from the plough, when they read these notes will look forward, with an instinctive presience, to the certain result of the application of American skill and industry, to the cultivatton of the Tea Plant.

Tennessee enjoys all the requirements that China can claim, and when made acquainted with her privileges, and when she sees the golden mine opened, will undoubt-

edly avail herself of the gifts of Providence, and be thankful.

Kentucky, Lat. $36^{\circ} 30'$ to $39^{\circ} 16'$. This state is one of the most northern of the American Tea growing districts, and yet the whole of it is fifty miles south of Peking, extending thence, three degrees and a half to the southward, and running parallel with the great Tea growing districts of China. This "Garden of the West" is the last state whose Tea growing capacity we design to consider. It will be perceived that I have uniformly avoided the low flat lands, and have rather wandered among mountain scenery, sought the rural beauty of hills and valleys, and have chosen to sit down upon a rugged cliff, rather than upon the muddy bottoms of rich intervals. The strict line of my duty accords with my natural disposition. Although legal and commercial pursuits rendered my residence in London for thirty-eight years, almost a matter of necessity, yet the country was always my delight, rural sports and horticultural pursuits my only amusements. From being so long debarred, in a great measure, from indulging the bent of my inclinations, I return to scenes familiar in early youth with a zest which privation has increased.

Kentucky I learn is a lime stone region, and I suppose often a gravely soil. Its diversity of surface always courts a choice, and the horticulturalist or the farmer can accommodate his particular views, by adapting his location with respect to soil and site to his contemplated object. This, when the climate is congenial to his cultivation, is all that can be desired. So far as we can judge from a close examination of the subject, Kentucky embraces all the requisites the Tea Planter can covet, and if he finds it necessary to make a voyage to China to obtain a cup of good Tea, it will be because he does not choose to make one at home. We do not deem it necessary to en-

large these notes by any remarks upon the Tea capacity of the amphibious states of New Jersey, Pennsylvania and Ohio. At the same time we fully believe it will ultimately be found that some parts of those states will produce as fine Teas as any portion of the United States or of China. Even the State of New York we do not consider without the pale of production, but until insurrection shall prevail over prejudice, and the force of interest over opposition, we must suspend our anticipations and wait the time when on-coming generations will rejoice in the expansion of our labours, although they may not choose to acknowledge them.

From this brief and imperfect sketch of the climate, soil, features of the country, and general capacity of the United States; from the fact that the parallels of Latitude correspond with those of the principal Tea growing districts in China and India; from the evidence afforded by all the experiments that have been made, and from the teachings of natural history, that every species of vegetable which grows in the temperate zone, in the four quarters of the globe, grows in the United States, we come to the irresistible conclusion that the Tea Plant will grow in the United States. Indeed, it would be marvellous if that Plant, indigenous to the temperate zone, should be the only one which will not grow.

If a virgin soil, picturesque glades, sloping lawns, and spreading vales, and northern barriers, and eastern bulwarks, and the warm beamings of a southern sun are indispensable to the perfect maturity of the Tea Plant, a munificent Providence, foreseeing these requirements, has entrusted them all to the keeping of the American husbandman. God has left him nothing to ask, he is only required and privileged to act. But I know full well by experience, how hard it is to lead the thoughts of men to travel in a new and untried direction. They love an old

pathway and recoil at the labour of searching out a new one. Incredulity is a common refuge from mental toil. However salutary and beneficial, the introduction of a new thing may be either in its use or cultivation, it has always had to struggle with the prejudices and habits of mankind, before it burst into general acceptance. And how can it be otherwise, when opinions are formed, and maintained in the abstract, without any knowledge upon the subject under consideration, and without any disposition to acquire it.

If we have succeeded in proving that our soil, climate, and physical advantages are not only equal, but far superior to those of China, for the growth of the Tea Plant, then we are compelled to fall back upon the population of our country, and ask the question, which we suppose no one whose heart is warmed by the blood of an American, will answer in the affirmative—are we inferior in intellectual attainment, in native vigour, and habitual industry to the Tea Planters of the Celestial Empire? Then why is it that we do not annually grow eleven million pounds of Tea for home consumption, and eleven times eleven millions for increased consumption and exportation. The answer involves the sum and substance of the whole investigation, because the industry of our country has not been applied to the production. And if we ask a consecutive question, why the industry of our country has not been applied to the production? The answer is because no one has taxed himself with the labour of analyzing the subject, and of acquainting the people with the fact that they are the fortunate holders of such a splendid prize. A mighty spirit of enterprize, however, burns in the bosom of our countrymen, which, kindled into action by a clear discernment of their own interests, overleaps every obstacle and urges them forward to the most magnificent results. Fearless of toil, no trifles dissuade, no

disappointments discourage, no dangers appal, no sufferings tire, but on they go, periling health and life, body and soul, rushing on through trackless wilds and savage hosts, through mountain storms and equatorial heats, nothing can overawe, nothing daunt, nothing quench their burning ardour. Such are the elements to which we look for the execution of this great agricultural enterprize, and we do not entertain the slightest apprehension that we look in vain.

Time will unfold the capacity of our country for the growth of Tea, and the native energy and accustomed industry of the husbandman, will seize the opportunity and appropriate the advantages which have lain concealed from the creation of the world, but are now unveiled and disclosed to his view.

TEA STATISTICS.

The annual consumption of Tea in the United States, is about 11,000,000 pounds. Upon the hypothesis that the average product of an acre of land is 547 pounds, it will require the cultivation of 20,109 acres of land only, to supply the present consumption of the United States.

The consumption of Europe, exclusive of Russia, which Empire will probably continue to be supplied to the extent of 6,000,000 pounds, annually, from China by overland transportation, is about 50,000,000 pounds. The growth of this quantity will require 91,411 acres of land.

The total quantity, therefore, necessary to be cultivated, as Tea plantations, to supply the present consumption of Europe and the United States, exclusive of Russia, is 111,520 acres, averaging 7965 acres for each of the fourteen Tea growing states.

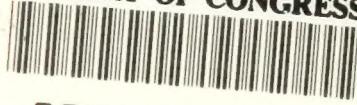
In 1843-4, Great Britain exported from China, 51,417, 765 pounds; but this exceeds the general yearly average of export. How much of this aggregate importation was exported to the Colonies and the Continent of Europe, I have not sufficient data to determine.

It is not possible, from the total want of official documents, to give the amount of Tea grown in the Chinese Empire. We can only form a general idea of the production by the population, and the habits of the people. If we estimate the consumption at three pounds for each individual, which, considering that Tea is the universal beverage of the Empire, I think cannot exceed the consump-

tion, we have the enormous product of 900,000,000 pounds, whilst the whole exportation does not exceed 70,000,000 pounds.

Undoubtedly, the consumption in this country, will increase in proportion to the extention and facility of production; as no beverage, with which we are acquainted will be found so cheap, wholesome, refreshing, and nutritious as Tea at all times, and especially in the high temperature of summer heat.

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